

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004625**Date Inspected:** 15-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Ye Yong Jun and Lvliqing**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and SAS Tower Fabrication**Summary of Items Observed:**

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

Bay 4: Tower Diaphragm

This QA Inspector randomly observed ZPMC welder ID number 054460 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly, NSD1-SA360-12B and 13B. The QA Inspector randomly observed ZPMC CWI Ye Yong Jun monitoring weld parameters.

Heat straightening was also observed on tower diaphragm flange ESD1-SA424 weld joints 3A/B and 4A/B due to welding distortion. Natural gas was used with heating temperature of less than 650 degree C with the aid of 8Ton counter weight and following procedure HSR1(T)-5390.

This QA also observed linear indication removal on fillet welds of SP430-001-002, 004 and 008 per critical welding repair report B-CWR189.

Bay 7: OBG - Floor Beam Sub Assembly

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This QA also observed ID #044774 and ID #044824 FCAW(1G) CJP welding fill pass on flange to web plate corner joint FB019-003-125 and FB023-004-127 respectively using a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic and following WPS-B-T-2231-Tc-U4b-F. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring preheat and weld parameters.

FCAW(2F) fillet welding on stiffener and flange to web plate FB028-005 weld joints 113, 149, 075 and 040/041 utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H following WPS-B-T-2132-3 this QA observed. ZPMC welder Liu Kaige was seen performing the task. Tack/fit-up of flange to web plate of floor beam FB020-002-092 using THJ506Fe electrode was also noted.

Bay 8: Tower Diaphragm

This QA observed ZPMC welders ID #067081, ID #066398, ID #066416 and ID #037997 SMAW(2G) PJP welding fill pass on 60mm stiffener plate to (bottom) tower double diaphragm WSD1-SA301B/B weld joints 13, 15, 10 and 9. ZPMC welders were noted utilizing Excalibur E9018M H4R, 4.8mm diameter electrode following WPS-B-T-3312-Tc-P5. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

Heat straightening of tower diaphragm flange WSD1-SA421 weld joints 7A/B, 8A/B, 11A/B, 12A/B and WSD1-422-10A/B due to welding distortion using heating temperature of less than 650 degree C and with the aid of hydraulic jack following procedure HSR1(T)-5509 and 5469 respectively this QA observed.

This QA also observed ZPMC/NDE personnel perform initial MT on the flange to plate tower diaphragm fillet weld connections ESD1-SA421-1.

This QA observed ZPMC weld, ID #202654 and ID #045175 utilizing the FCAW Process in the 2F (Horizontal) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H semi automatic with ZPMC WPS WPS-B-T-2132 to weld fillet root pass on fillet weld connection between tower diaphragm plate to diaphragm flange NSD1-SA362-13. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

Tack/fit-up of 75mm thick plate butt joint NSD1-SA244A/B-1B for tower diaphragm using E9018M H4R electrode and using WPS-B-T-3211-B-U3b-1 was on going this QA observed. ZPMC welder ID #043218 was seen performing the task.

Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials for your project.

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Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Cuellar, Robert

QA Reviewer